

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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Highlights of the July ARRL Board of Directors Meeting

The Board of Directors of the American Radio Relay League, Inc., met for their second session at the Hilton Hartford Hotel in Hartford, Connecticut on Friday, July 21, and Saturday, July 22, 2000. The meeting was called to order by new ARRL Jim Haynie, W5JBP. Also in attendance were various ARRL officers, staff and observers. More than \$1 million in spending was authorized at the meeting. Among some of the more interesting items covered:

- Ed Metzger, W9PRN, conveyed the greetings of the ARRL Foundation. He reported that the Foundation's assets remained above the \$2 million mark and noted that \$37,000 in scholarships was distributed last year.
- President Haynie began his report with comments regarding his and staff's efforts to expand and improve the League's relationship with the FCC. He continued with remarks about the tremendous year so far with regard to positive publicity for Amateur Radio -- especially those stories associated with the van Tuijls' tragic episode with pirates off the coast of Honduras. Other topics covered by President Haynie included the effects of restructuring, progress on "The Big Project," and the ARRL's participation in the upcoming WRC 2003 where the misalignment of the 7 MHz band will be given attention.
- Vice President Kay Craigie, WT3P, delivered an in-depth presentation regarding "The ARRL Education Project" also known as "The Big Project," which will harness the country's known uses of Amateur Radio in the classroom and refine, expand, and promote such use in far greater numbers. This initiative will seek funding from private and corporate sponsors -- especially from those

organizations that value an Amateur Radio background in their potential employees.

- It was unanimously voted that the ARRL shall create a long-term program promoting the application of Amateur Radio in American primary and secondary education. The program will be called the *Amateur Radio Education Project*. The project will create comprehensive resources to be provided to educators for the incorporation of Amateur Radio as an effective teaching strategy in such subjects as geography, language arts, mathematics, electronics, and physics.
- International Affairs VP Rod Stafford, W6ROD, supplemented his extensive written report with a presentation about the "harmonization" of the 7 MHz band. The 7 MHz misalignment issue is now on the agenda for the World Radiocommunication Conference in 2003 and it is imperative that the ARRL do the utmost to achieve a 300 kHz exclusive assignment for Amateur Radio around 7 MHz.
- Chief Financial Officer Shelley relayed information regarding ARRL's investment portfolio. Investments are valued at approximately \$15 million. Shelley discussed ARRL's financial condition and the positive effects of restructuring, the net result being that ARRL is approximately \$330,000 ahead of budget projections for the first six months of the year. He continued with discussion of plans to replace three outdated software packages.
- General Counsel Chris Imlay, W3KD, reported on many issues and centered on the 2400 -2450 MHz band. Vice Director Art Goddard, W6XD, discussed how the Los Angeles Office of Public Safety is attempting to gain sanctioned use of this band for its helicopter-based video

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transmissions. Mr. Imlay also discussed the dynamics surrounding ARRL's petition for reconsideration for strengthening of PRB-1.

- Steve Mansfield, N1MZA, Manager of Legislative and Public Affairs, supplemented his written report with introductions of John Chwat and Derek Riker of Chwat and Company of Alexandria, VA. Chwat and Company has been working with Mr. Mansfield "on The Hill" and has been of tremendous assistance to ARRL's advocacy work in Washington.

Mansfield reported that time is running out for adoption of the Amateur Radio Spectrum Protection Act in this Congress.

- ARRL Technical Relations Manager Paul Rinaldo, W4RI, delivered a report on the numerous activities of his office including work for the IARU, WRC-2000, Americas TELECOM 2000 and several ITU Study Groups.

- The Membership Services Committee reported on the 15 meter DXCC rollout and the progress of the DXCC 2000 program and the DXCC Challenge Award. The 12 and 17 meter DXCCs will be added in January 2001 thus rounding out the program. Also discussed was the electronic QSLing Project. The EQSL project will proceed with written specifications for an automated system incorporating extensive electronic security measures. The Committee also discussed the progress of the DXCC Card Checking Program and will re-evaluate at the next Board meeting. The MSC will be developing a set of goals and criteria to send to the Contest Advisory Committee for a study of the Club Contesting program. The Membership Services Manager was asked to study the possibilities for managing a QRP DXCC.

- George Race, WB8BGY, Chairman of the Volunteer Resources Committee reported on the National Convention concept, Club 2000 Achievement Award Program issues, and the success of the combined Dayton Ham-convention/ARRL National Convention. An *Ad Hoc Committee on National Conventions* will be appointed by the President whose task will be to determine the objectives for holding ARRL National Conventions and to identify ways to measure the success of National Conventions. The committee will submit its report to the Board at the Annual Meeting in January, 2001.

- The Board selected Dan Calzaretta, NX9C, of Portland, Oregon, as the 1999 *ARRL Professional Educator of the Year* and Allen Wolff, KC7O, of Sierra Madre, California, as the *Instructor of the Year*. Other awards went to Rick Campbell, KK7B, of Portland, Oregon, Brian P. Mileshosky, N5ZGT, of Albuquerque, New Mexico, Al Ward, W5LUA, of Allen, Texas, Terry Fox, WB4JFI, of Falls Church, Virginia, and Diane Ortiz, K2DO, of Bellport, NY.

- The Ad Hoc Antenna Case Assistance Committee

recommended the creation of a four-member *Voluntary Panel of Experts* to evaluate requests for supplemental funding of antenna cases.

It was voted that ARRL funding of federal appeals, with a cap of \$10,000, will be available in those rare and infrequent cases in which there was significant issue of law of benefit to the wider Amateur community, substantial merit on the facts of the case as presented at the administrative and trial levels, a likelihood of success on appeal, and substantial financial participation at the appellate level by the Amateur or the local Amateur community.

A Memorandum of Understanding between the Amateur, the Amateur's counsel and the Panel will be required, setting forth the issues to be addressed on appeal and the legal theories to be advanced. Funding will be provided only on the unanimous decision of the Panel and would come from contributions to the Legal Research and Resource Fund.

- The Administration and Finance Committee discussed the need to upgrade its information technology software to one that emphasizes web-based delivery of member services, including products and information.

The ARRL presently relies on three primary software programs that are written in an outdated and unsupported FoxPro database program to manage its operations in accounting, membership records, and DXCC.

It was unanimously voted that the Information Services Department be authorized to invest up to \$1.25 thousand dollars in a new integrated hardware and software system.

- The Administration and Finance Committee also discussed problems with the ARRL.net e-mail forwarding service, which is much more popular than originally anticipated. With over 35,000 members using the service the committee recommended the addition of professional, offsite hosting services to guarantee a high level of reliability and security for members who are using @arrl.net as their primary e-mail address. It was voted to spend up to \$17,000 for additional hardware and up to \$2,125 per month for additional fees and services for ARRL.net.

- Due to recent advances in printing technology and the reduced cost of full-color printing, the Board directed its staff to print *QST* in full color and to increase the publication to a minimum of 176 pages per issue.

- First Vice President Joel M. Harrison, W5ZN, discussed planned Amateur Radio activity on the International Space Station (ARISS) which includes operation on 2 meters and 70 centimeters in October when the first (Expedition 1) crew will be settling in.

The ARRL Board thanked John and Karen Nickel, WD5EEV and WD5EEU, for their work with NASA at the Johnson Space Center in support of the SAREX/ARISS

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Working Group's efforts to place Amateur Radio on the International Space Station.

- The Technology Task Force recommended the ARRL proceed to spearhead the development of digital voice for the Amateur Service. The Board agreed. The ARRL president will appoint a group of individuals knowledgeable in the field of digital voice from the international Amateur community and industry. The group will report to the Technology Task Force which in turn will report to the Board at its January 2001 Annual Meeting.

- The RF Safety Committee reported on an ongoing study being performed by Dr. Kenneth Cantor of the National Cancer Institute.

- The Public Relations Committee reported on the favorable Amateur Radio publicity generated by the van Tuijl pirate shooting off the coast of Honduras, the big screen movie *Frequency*, and ARRL's Kid's Day and Field Day.

- The Historical Committee discussed the mechanics of identifying, cataloguing, storing, and displaying archival material that is located at League Headquarters and elsewhere. The *Fund for the Preservation of Amateur Radio Artifacts* (established by the ARRL Board in 1986) has a balance of approximately \$90,000.

- The Industry Advisory Council discussed a proposal that four radio-related items be standardized among manufacturers (DC power connector, base station microphone connector, sound card interface, and serial port interface).

Sales were "best ever" at this year's combined Dayton Hamvention/ARRL National Convention 2000.

A ham radio promotion brochure was recommended for inclusion in Family Radio Service equipment packaging.

- The DX Advisory Committee noted the addition of two new entities to the DXCC List: East Timor (4W), and the Chesterfield Islands of New Caledonia (FK/C).

A new DXAC Chairman will be appointed soon to replace Wayne Mills, N7NG, who joined ARRL staff as the Membership Services Manager.

- A report on behalf of the ARRL ARDF Coordinator was made concerning Amateur Radio Direction Finding. The ARRL is providing funding to help defray the costs of the ARRL's team to travel to Nanjing, China to compete in the 10th ARDF World Championships. The ARRL Team Leader will be Dale Hunt, WB6BYU.

- The RFI Task Group reported on Pacific Gas and Electric noise problems, and the AT&T/Phonex cable modem problems (interference at 3.53 MHz). AT&T management has been responsive and has helped to eliminate over 26,000 of the 56,000 wireless modems that op-

erated at 3.53 MHz and were installed across the country.

RFI threats to Amateur Radio are on the increase and Part 15 devices are leading the way causing the ARRL to begin a comprehensive Part 15 information page on its web site.

- The Board unanimously voted that the League will expand its relationship with the Boy and Girl Scouts reaffirming the League's commitment to the youth of America.

The Board also agreed to execute, on behalf of the ARRL, a *Memorandum of Understanding* with REACT International, Inc. and the Society of Broadcast Engineers, Inc.

- ARRL volunteer examiners and the ARRL VEC were commended for having administered and processed more than 30,000 Amateur Radio license applications between April 15 and June 23, 2000 and for their efforts beyond the call of duty.

- The Board unanimously agreed that "the misalignment of the worldwide 7-MHz (40-meter) Amateur band has been a longstanding problem since 1938" and that "previous attempts to realign the Amateur and broadcast bands have been unsuccessful for various reasons."

"Whereas, WRC-2000 has recommended that 7 MHz realignment be placed on the WRC-2003 agenda; and whereas the realignment of the band is of great importance to Amateurs in the United States and globally; ...the League hereby reaffirms the goal of attaining 300 kHz at 7 MHz worldwide, Amateur exclusive, and instructs the Executive Vice President to pursue the above objective and to take all steps reasonably necessary and appropriate to achieve the objective."

The International Affairs Vice President was directed to work with sister societies and the *International Amateur Radio Union* in order to achieve this objective.

- The Volunteer Resources Committee was asked to study a proposal to conduct a nationwide ARRL School Science Fair project.

- Two radioamateurs were awarded the *ARRL National Certificate of Merit* for their efforts on behalf of Amateur Radio spanning more than 50 years. Jack Landis, W0PRF, of Des Moines, Iowa "contributed to the health and growth of Amateur Radio in the Midwest" by instructing more than 500 Radio Amateurs. Forrest Bartlett, W6OWP, of Paradise, California was recognized for his providing on-the-air code practice and ARRL code proficiency qualifying runs.

- Noting that the FCC removed the Spread Spectrum spreading codes in response to an ARRL petition, the Board instructed its staff to file another petition with the FCC to permit Spread Spectrum emissions in the 219-220 MHz and 222-225 MHz band.

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AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of August 2000:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0OJ	KI0RV	(***)	KC0IOI
1 (*)	AA1WR	KE1LY	(***)	KB1FNG
2 (*)	AB2RD	KG2RM	(***)	KC2GSX
3 (*)	AA3VL	KF3DZ	(***)	KB3FIC
4 (*)	AG4AY	KV4FH	(***)	KG4IVP
5 (*)	AC5ZL	KM5XE	(***)	KD5LEN
6 (*)	AD6RU	KR6ER	(***)	KG6CQU
7 (*)	AC7HY	KK7WL	(***)	KD7JZV
8 (*)	AB8IO	KI8JX	(***)	KC8PCR
9 (*)	AB9AA	KG9RA	(***)	KB9WTJ
N. Mariana	NH0W	AH0BB	KH0KF	WH0ABP
Guam	(**)	AH2DN	KH2UX	WH2ANX
Hawaii	(**)	AH6QM	(***)	WH6DGJ
Am. Samoa	AH8T	AH8AI	KH8DO	WH8ABF
Alaska	(**)	AL7RR	KL0YB	WL7CVE
Virgin Isl.	(**)	KP2CP	NP2KZ	WP2AIN
Puerto Rico	WP3H	KP3BL	WP3HN	WP4NOT

* = All 1-by-2 & 2-by-1 call signs have been assigned.

** = All 2-by-1 call signs have been assigned.

*** = Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district.

Note: New prefix numerals now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) and Alaska (AL0/KL0)

[Source: FCC Amateur Service Database, Washington, DC]

NEW AND UPGRADING AMATEUR STATISTICS

For the Month of July 1998, 1998 & 2000

License Class	New Amateurs			Upgrading Amateurs		
	1998	1999	2000	1998	1999	2000
Novice	45	63	0	0	3	0
Technician	1172	1005	1125	0	6	[?] 27
Tech Plus	157	137	[?] 1	218	230	[?] 45
General	22	9	124	237	188	1407
Advanced	3	3	[?] 3	199	155	[?] 18
Extra Class	2	2	16	170	114	647
Club/Empty	64	87	[?] 0	0	1	[?] 0
Total:	1465	1306	1269	824	697	2143
Decrease:	(13.4%)	(10.9%)	(2.8%)	(16.0%)	(15.3%)	+207.5%

? = Not sure of these figures [...taken from FCC database.]

TECH PLUS BEING REPLACED BY TECHNICIAN TICKETS

We keep getting questions about Tech Plus amateurs getting back Technician Class licenses when they change their name or address. The Tech Plus license actually started in 1994 when a (Gettysburg PA) FCC official decided (without going through required rule making) that there should be some way to distinguish between Codeless and "Coded" Technicians.

The (Washington DC) FCC (in PR Docket 90-55

adopted Dec. 13, 1990) had already decided that they would not have a (sixth) Technician Plus Class.

The original plan was that the VECs would maintain a database of Codeless Technicians who passed a telegraphy exam. The master file was to be submitted to the FCC monthly in paper or magnetic form -- which it was during the early 1990's. Paragraph 33 of the (1990) Report & Order which authorized the Codeless Technician license contains this paragraph.

"33. We [the FCC] do not foresee, moreover, that there will be any increase in enforcement difficulty resulting from using the CSCE to document the passing of a telegraphy examination for an indefinite period. Our rules already authorize a licensee holding a CSCE to exercise the rights and privileges of the higher operator class for a period of up to 365 days. This provision has not resulted in any increased enforcement burden. Section 97.301(e) is amended, therefore, to implement our proposal to use the CSCE to document indefinitely the passing of a telegraphy examination for the purpose of authorizing to codeless Technician Class licensees privileges below 30 MHz. We will confer with the VECs to establish a schedule for reporting the call signs and names of 'Technician Plus CSCE Class' operators."

Between 1991 and 1994, the VECs maintained a database of Technicians who passed 5 wpm Morse code exam. It was eventually folded into the FCC's Tech Plus database when it mysteriously began in 1994.

When the FCC issued their most recent Amateur Service restructuring order on Dec. 30, 1999, (in WT 98-143) they merely reverted back to their original (1990) plan. It is covered in Paragraph 20 of the R&O.

20. With regard to our proposal to renew Technician Plus Class operator licenses as Technician Class operator licenses, we note that Technician Plus Class licensees personally hold documentation that they have passed a 5 wpm telegraphy examination. For this reason, we see no need to maintain a separate classification of these licensees."

But it is already causing a lot of confusion. Tech Plus operators who change their name or address are now being issued Technician Class tickets. Many contact us stating that an error has been made on their license - which is not the case. The restructuring order clearly called for the Tech Plus Class to be discontinued and replaced with Technician (with 5 wpm credit) licenses.

So far, the problem is minor compared to what it will become after December 12, 2000. This is when Codeless/Coded Technicians may begin renewing their ten year term license that started being issued on March 12, 1991. (Ham licenses may only be renewed 90 days before expiration.) Many (perhaps most) will want to know what happened to the "Plus" on their Tech Plus license. Even though the R&O was very clear that Tech Plus tickets would be renewed as Technician, few Tech Plus amateurs apparently are aware of it.

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CUTTING EDGE TECHNOLOGY

■ **Interesting quote from former Postmaster General, Paul Carlin:** "The advance of technology is like an avalanche. What began as a few flurries 150 years ago with the invention of the telegraph – the first digital technology – grew into a mild snowstorm with the telephone and radio. It intensified into a heavy storm of electrons with the advent of television, cable, computers, microwave and satellites. When all these go hooked together, and the microchip replaced the main-frame, and fiber optics replaced copper wire, the electron storm became a blizzard. And in just five years, the Internet-driven blizzard of electrons has built a huge snow mass that is now an avalanche."

■ **The U.S. Postal Service moves nearly 200 billion pieces of mail a year.** But in less than 3 years, first-class mail (a \$35 billion business and the USPS' top revenue-producer) will begin to decline due to increasing e-mail, online greeting cards and automated billing services. Within two years, 15 million people will be paying their bills online and eventually one-third of all consumers will do so. To counteract that threat, USPS plans a variety of e-services.

- The USPS will assign virtually everybody a free e-mail address corresponding to their street address. The new online e-box address would consist of a person's initials, followed by their 9-digit ZIP code and the last two numbers of their street address followed by "@USPS.com." Delivery of all e-mail could be tracked to the recipient

- Another new service would allow customers to send e-mails to a post office to be printed and delivered as first-class mail. Cost: about 41 cents each ...less than the cost of sending out targeted promotional/advertising ("junk") mail.

- A service that lets customers pay bills online through the Postal Service's Web site. Cost: \$6 per month to send 20 electronic transactions or \$3 per month and 40 cents apiece for unlimited transactions.

■ **Remixing the classics. Recording engineers have been digging master tapes of songs and music out of the vaults for years to copy them over to compact discs.** Now they're going back again, adding some studio tricks, to re-mix old music from stereo over to a new format: 5.1-channel surround sound. This is the new standard for DVD-Audio. It pro-

vides six speakers: left, right, center, surround-left, surround-right, and subwoofer. Some of the newest songs are being specifically recorded directly in 5.1 to take advantage of the DVD-Audio marketing.

But don't ditch your two-track stereo just yet. It's possible to store both versions of an album onto a single DVD-Audio disc; normal stereo can be recorded on one side, and six-channel surround on the other. And DVD-Audio players will still convert and provide a normal stereo output as well as 5.1.

■ **Does that anti-static wrist strap really work?** Perhaps not. Technicians working with static-sensitive electronic circuitry must keep their bodies at ground potential to avoid the risk of high-voltage static discharge, which ruins millions of dollars' worth of chips each year. One way of doing this is to wear a wrist strap, connected to ground. But what if that ground's potential changes? What if the connecting cable contains an intermittent break? Worse, what if the technician removes the strap and forgets to put it back on? Testing wrist straps at certain times throughout the day may not reveal all of these problems. That's why devices that constantly monitor wrist-strap activity are available. If ground disappears, it triggers an alarm. The technician finds out about it immediately, and can fix the problem as soon as possible.

■ **What else does "SWR" stand for?** Log on to www.acronymfinder.com and find out. It contains over 100,000 acronyms and abbreviations for terms from all walks of life, and more are added every day. Organizations, slang terms, even humorous anecdotes fit plenty of acronyms such as FRED, WANDA, FUDGE, FIDO, GOMER, TACO, even NASA. There are over a dozen variations of acronyms that fit CW, and perhaps not even the most dedicated ham could tell you that USB also stands for United Soybean Board! Even acronyms from other languages are supported.

■ **Web-based test equipment lets you connect site and shop.** Hewlett-Packard's latest digital troubleshooting tools and logic-analysis systems contain Web servers so you can remotely access sensor readings from anywhere in the world. A central lab can coordinate a wide assortment of sensors, switches and other I/O equipment in a factory without having to measure each individually. A TV station's chief engineer can monitor the state of equipment out at the transmitter by just logging onto the Internet.

■ **The epoxy that seals up proprietary parts or modules in some high-end electronics gear** not only thwarts reverse-engineering, it also protects the components. Oscillators depend on mechanical stability as well as a stable power supply, so mechanical support from a totally encapsulating material keeps the circuitry running smoothly. It also carries away excessive heat to the outside world, so the epoxy acts as a heat sink. It electrically insulates components from one another. And, of course, it keeps others from tearing open an expensive module to see what makes it tick or to illegally modify the circuit.

■ **For eliminating static electricity, try ionizing cord.** Resembling bare ground braid, the thousands of tiny points along its length sufficiently discharge static by making it easier for the electrons to reach ground. The ionizing cord is placed across a charged surface and the other end is connected to earth ground. It won't rust, corrode or scratch other materials. It's made by Alpha Innovation.

EMERGING COMMUNICATIONS

■ **Maryland neurologist Dr. Christopher Newman, 41, has filed an \$800 million lawsuit** against cellular phone maker Motorola and several other telecommunications firms alleging that using wireless handheld cell phones caused his malignant brain tumor. He said the companies failed to inform the public that cell-phones generate high levels of RF radiation which can cause cancer and other harmful health effects. There are about 100 million cell phone users in the U.S.

Motorola denied that there was a connection between cell phone use and health problems. The Cellular Telecommunications Industry Association recently began requiring wireless phone manufacturers to disclose radiation levels associated with the use of their products. The handheld wireless phone business is expanding fast! Motorola expects to produce 80-85 million handsets in 2000.

■ **So many cellular telephone towers have been built that companies that make them have become experts** in the field of working with local governments when it comes to obtaining permits. Legal work is often the full-time job of a staff (contracted or company-employed) that clears the way for the technicians and engineers to drive in and set up the tower and RF equipment.

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■ **Mitsubishi pulls out of CBS sponsorship.** To promote and support high-definition television (HDTV) sales, Mitsubishi agreed in 1999 to help sponsor HDTV programming on CBS for about \$10 million. With two dozen of the largest American markets broadcasting in high-def, it was thought to be a good way to boost receiver sales. But not enough buyers snapped HDTV sets from the shelves. Mitsubishi has therefore canceled the agreement, choosing instead to concentrate only on specific programs here and there.

■ **Digital church steeples.** The newest church clocks, chimes and carillons are controlled by computers. Not only can the musical classics be played back time and time again, but vocal announcements can be recorded and played back, too. All this can be done remotely, from a central office, so some poor soul won't have to climb a tower in cold or rough weather. Some units can store and play back over 200 songs and messages in digital quality.

■ **Want to convert a high-definition TV (HDTV) signal for viewing on your computer monitor?** It's often done in TV control rooms now. Since HDTV is just serial data, it can be converted into a variety of other video formats, such as RGB and SVGA. Handheld devices that do this do not include tuners, so they're useful in studios when budgets are limited. A roomful of VGA monitors is cheaper than a wall of new HDTV receivers and antennas.

COMPUTER INFO

■ **DNA-based computers are being seriously examined for future production.** DNA (look it up on the aforementioned AcronymFinder for the full definition) is made up of organic material which can carry electric current just as well as semiconductors do. With biologists learning more about genetics every day, it could be possible to use a human body as a new type of computer. Future computer-science students may need to study biology as much as engineering, because silicon is approaching its practical limits in terms of speed and miniaturization.

■ **Individually programmed circuits.** One might think it would be too expensive to manufacture thousands or millions of integrated circuits, each with a unique interior. But it's not difficult or expensive to program a large batch of chips with serial

numbers, passwords, or individual sets of data. It's often done after a batch of circuit boards have been manufactured but not yet programmed. The on-board chips are blank at this point. All the factory must then do is connect a computer to a board's serial port and quickly upload the required information. This can be done during board testing. Flash memory allows this type of programming to be done quickly and inexpensively.

■ **Laser printer handles the mail.** Hewlett-Packard's latest laser printer does it all: it can print letters and invoices, fold the papers, stuff them into envelopes, seal the envelopes, and stamp them for you automatically. The only thing it can't do is drive you to the post office. It's great for payroll, billing, and mass mailings.

■ **Hotel designers are starting to incorporate "people sensors" in hotel rooms.** When no one is registered to a room, a computer can shut off heat or air conditioning in it. When someone checks in at the front desk, however, the registration computer automatically turns on that room's environmental controls to make it comfortable for the guests by the time they get there. Door sensors tell the computer that all the people may have left, and motion sensors examine the room for a time to make sure it's really empty. If no motion is detected, the computer assumes the guests are gone for a while and will re-adjust the room temperature for a less comfortable, but also less expensive, level. Doors opening and people in motion will return the room's ambient air temperature to the guests' favorite level. When the guests check out, the environmental computer restores the room to "wait" mode. The system keeps tabs on itself at all times, triggering an alarm to the hotel staff when a heater or air conditioner doesn't respond to commands.

INTERNET NEWS

■ **The Avon lady will no longer be going door to door.** Beginning next month, she will be e-mailing and customers will be placing online orders. By the end of the year, the famous Avon catalog will be online. Avon has been around 114 years. Last year's sales were \$5.2 billion. Avon representatives attending their recent annual convention in Las Vegas got a crash course on using e-mail, the Web and how to create an Avon Website.

■ **The butler now answers "Live."** --

"Ask Jeeves" plans to add voice responses into "Jeeves Live," its instant text messaging e-commerce/support/learning offering. The new technology will allow customers to simply click on a button and call from their PC to a company's standard, telephone-based call center, enabling immediate and personalized voice-answered customer service. (An actual person answers the phone and speaks to you over your PC.) Try this demo: <<http://corporate.ask.com/demo/4.html>> The system can also be used to call for software support to a live person from your PC. The voice response service is from "HearMe." <<http://www.hearme.com>>

■ According to the Wall Street Journal, **the bookie underworld has headed to the Internet and Costa Rica** ...where gambling regulations are rarely enforced and the telecommunications are good. Betting with offshore (international) sports books is on the rise and spreading from telephone to internet-based online services. Bookies are heading in droves to this Central American country where approximately 70-100 sports-betting stores have opened in the last three years.

WASHINGTON WHISPERS

■ **The FCC has socked Carolina Liquidators of Irving, Texas with a \$230,000 fine** for sending out unsolicited "Junk Fax" advertisements to the public promoting a furniture auction. The Telephone Consumer Protection Act (TCPA) prohibits any person from using a telephone facsimile machine, computer or other device to send an unsolicited advertisement to a FAX machine. The FCC also issued citations to many other vendors who have sent consumers faxed advertisements.

■ **The FCC has arrested Vladimir Petit-Fere for operating an unlicensed FM radio station** on 88.5 MHz in Brooklyn, New York and seized his transmitting equipment. The Commission had previously issued letters of warning to him directing him to cease operation of the unlicensed station which were ignored. Since January 2000, investigations of unlicensed broadcast operations by the FCC's Enforcement Bureau have resulted in the shut down of 44 unlicensed stations, one *Notice of Apparent Liability* for a forfeiture, seven court-ordered seizures of radio equipment, three court orders ceasing operation of an unlicensed station and one

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■ **The FCC intends to authorize a new breed of low power FM broadcast radio station.** The LPFM service consists of two types of stations: 100 watt stations which reach an area with a radius of approximately three and one-half miles; and 10 watt stations which generally have a range of one to two miles from the transmitter.

It is accepting applications in stages and so far has received 769 low power FM radio applications from states in the first phase; community-based organizations and state and local governments in Alaska, California, District of Columbia, Georgia, Indiana, Louisiana, Maine, Mariana Islands, Maryland, Oklahoma, Rhode Island and Utah.

The FCC's preliminary count of the applications received in each of the first ten states breaks down as follows: Alaska (27), California (309), District of Columbia (4), Georgia (109), Indiana (73), Louisiana (66), Maine (12), Maryland (17), Oklahoma (61), Rhode Island (25) and Utah (19).

The second filing period, which begins at the end of August, will take applications from Connecticut, Illinois, Kansas, Michigan, Minnesota, Mississippi, Nevada, New Hampshire, Puerto Rico, Virginia, and Wyoming.

■ **The FCC has allocated new spectrum and established rules for a Wireless Medical Telemetry Service**

(WMTS) that allows potentially life-critical equipment to operate on an interference-protected basis. Medical telemetry equipment is used in hospitals and health care facilities to transmit patient measurement data to a nearby receiver. Examples of medical telemetry equipment include heart, blood pressure and respiration monitors. The use of these devices can allow patients to move around early in their recovery while still being monitored for adverse symptoms. With such devices, one health care worker can monitor several patients remotely, which could reduce health care costs. The Commission allocated 14 MHz of spectrum for use by medical telemetry equipment in the 608-614 MHz, 1395-1400 MHz and 1429-1432 MHz bands. The WMTS will be designated one of the Citizen's Band Services and licensed by rule to eliminate the costs and delays that could occur from having to obtain individual operator's licenses.

■ The FCC has a major campaign un-

derway to clamp down on "slamming" - the unauthorized transfer of consumers' preferred long distance telephone service. Some of the nation's largest telephone companies are involved. For example, MCI Worldcom agreed to pay a \$3.5 million voluntary contribution to the U.S. Treasury to terminate a slamming investigation.

The Consent Decree follows five other recent slamming enforcement actions by the Commission since February. In addition, the Commission recently released an order that further strengthens its slamming rules to take the profit out of slamming and create additional industry-wide disincentives against slamming.

■ **The FCC has released an easy-to-understand guide on radiofrequency (RF) emissions.** The objective is to assist local governments and individual citizens in better understanding the origin and application of FCC safety rules to safeguard public health from RF exposure. The guide, entitled "**A Local Government Official's Guide to RF Emission Antenna Safety: Rules, Procedures, and Practical Guidance**," is available on the FCC's RF safety web page at <www.fcc.gov/oet/rfsafety>.

The guide is designed to provide local communities with a greater understanding of RF emission issues and comprehensive information and guidance in devising efficient procedures for assuring that local antenna facilities comply with the FCC's limits for human exposure to RF electromagnetic fields. It answers in clear, understandable language the questions of elected officials and local residents alike on the impact of antenna towers on community health.

The guide explains the process whereby federal, state and local agencies with expertise in health and safety issues, including the EPA and FDA, assisted the FCC in establishing consensus limits for human exposure to RF emissions. It says the limits themselves are set many times below levels generally accepted as having the potential to cause adverse health effects. A list of transmitters, facilities and operations subject to routine environmental evaluation (including amateur radio) is included.

■ **Fighting fire with fire department -- The federal government is quietly recruiting hackers to battle the increased threat of cyber terrorism and PC spies** -- The eighth annual computer hacker convention, "DefCon8" was held a couple of weeks ago in Las Vegas. More than

6,000 showed up ...most underground attendees were dressed in their trademark solid black.

Government computers get hit more than 20 thousand times annually. Many of these hacks show an increased level of intricacy that proves the threat of cyberterrorism is growing. Security experts believe that there is a new generation of skilled hackers emerging. They have been attending DefCon for years. Organizers estimated that 10-20 percent of attendees were law enforcement or intelligence community officials

Federal officials have attended the gathering before, but mostly in secret. This year they were very open about it. The CIA, the Department of Defense, FBI and the National Security Agency want to hire accomplished hackers who don't have criminal records. Uniformed military personnel were openly accepting employment applications in the back of the convention hall.

■ **The FCC's Enforcement Bureau has issued enforcement actions** against Neftali Zea (Union Park, FL), Ana Rodriguez-Rolon (Cayey, PR) and Samuel Romero (San Juan, PR) for using illegal power amplifiers in the CB band.

AMATEUR RADIO

■ **Express Electronics, Inc. has established a website that markets what appears to be illegal linear amplifiers** which they say "...are for Industrial, Scientific, Medical, Amateur Radio, or Export use only.) They add that buyers should "Contact your local regulatory commission for more information."

While they mention the amplifiers should not be used to transmit on the Citizen Band in the United States, or Canada, that appears to be their intended use. The still "Under Construction" site says "Each amplifier is shipped in a plain brown box with no documentation, instructions, or owners manual." ...adding "Most of our amplifiers are designed for 10 meter use, but function from 10 to 80 meters."

Apparently the firm is not familiar with Amateur Radio rule §97.317 which forbids marketing of Amateur Radio 10-meter amplifiers even to ham operators. The website <<http://www.exportradios.com>> contains a Longview, Texas "repair" address. A Network Solutions "Who Is" search shows the domain to be registered to a Michael Faulkner at a Marshall, Texas address.

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■ **W1ICP "SK" - Amateur Radio legend and former ARRL Headquarters staff member Lew "Mac" McCoy, W1ICP, of Mesa, Arizona died July 31** following a lengthy illness. He was 84. He held many calls including W9FHZ, W0ICP and XE2VHT.

Lew's main love was DX having worked over 380 countries. He lived most of his retired life in the high-altitude city of Silver City, New Mexico - a location he claimed gave him a 30 db gain due to being closer to the ionosphere.

As a member of the ARRL Headquarters staff from 1949 until 1978, McCoy gained a national and international reputation primarily for his articles in *QST* and his early work to combat TV interference. McCoy also was well-known for his "The Ultimate Transmatch," an antenna tuner he described in a July 1970 *QST* article.

After retiring from the ARRL, Lew took the post of Technical Editor of *CQ* magazine where he authored the book: "Lew McCoy on Antennas." He is a previous QCWA president.

In keeping with his wishes, there was no funeral. But a memorial service is planned.

■ **Another applicant "ID number" from the FCC.** Just as amateurs were getting used to their 9-character "Licensee ID" comes word that another number has been issued. The FCC has mailed out letters to all radioamateurs who were registered in ULS, the FCC's Universal Licensing System.

The letter notifies all registrants of their new "Commission Registration System" (CORES) FCC Registration Number (FRN) which eventually will be used to conduct all FCC business - including both licensing and payment functions.

The FCC plans to integrate certain aspects of ULS into CORES. When this integration is complete (not until next Spring for the Amateur Service), radio-amateurs will be required to use their 10-digit FRN and CORES password to access ULS.

■ **An FCC investigation has lead to the arrest of an unlicensed amateur radio operator.** Mr. William Flippo of Jupiter, Florida, was arrested on July 20th for operating an unlicensed radio station on amateur radio frequencies and for intentionally causing interference to licensed amateur radio stations. The Enforcement Bureau, responding to numerous complaints, had previously warned Mr. Flippo to stop his illegal activities and had issued

him a \$20,000 forfeiture. Despite the fine, Mr. Flippo did not stop his activity.

The United States Attorney's Office for the Southern District of Florida charged Mr. Flippo with four counts of unlicensed radio operation and four counts of interfering with licensed radio stations, which he allegedly committed between June 8, 1999, and April 11, 2000. The United States Marshals Service arrested Mr. Flippo at his Jupiter, Florida home, from which it also seized his radio transmitting equipment.

If convicted, Mr. Flippo could face up to one year in prison and a fine of up to \$10,000 for each violation. The FCC's Enforcement Bureau commended the members of the amateur radio community, who provided information leading to Mr. Flippo's arrest, and thanked the United States Attorney's Office for the Southern District of Florida and the United States Marshals Service for their efforts in prosecuting the case.

■ In other enforcement actions:

Woody B. Bradley, Jr. NC4OK of Elm City, NC, **Linda C. Hearn Donelly KD7FRQ** of Tucson, AZ, **John A. Green, Jr. KD4TTE** of Mobile, AL, **Albert J. Shemonia KB9SFA** of Aurora, IL, **Robert L. Wiseman KC8JBO** of Glendale, WV and **Ronald A. Neal KE4KFZ** of Clayton, NC have been ordered to retake various Amateur Radio license exams.

Joseph Falcone N8TI of Brighton, MI was questioned about his stockpiling of several club call signs. He responded by stating that records concerning these clubs had been destroyed, and that he had no objection to the cancellation of those call signs. They were canceled by the FCC.

Benjamin J. Lee KC7IUP of Vancouver, WA has been notified that his one year voluntary license suspension is now over and his Technician Class privileges have been restored. He had previously been issued a *Notice of Violation* for interfering with a repeater on 466.750 MHz.

Robert W. West WA6MFJ of N. Hollywood, CA has been cited for allegedly operating a 40-meter beacon signal "...purposely wide or close to adjacent communications so as to disrupt the communications.."

Adam Andrews of Lewiston, ID has been charged with using a ham call sign (W7OWG) which was not issued to him on CB frequencies and operating on other frequencies near the CB band.

James V. O'Brien III, W4AMP of Hiram, GA has been notified that the FCC intends to revoke his General Class license. The Commission says he is seriously misinformed about the purpose of the Amateur Service and the prohibition against obscene and indecent transmissions. He was previously warned.

The Torrey Pines Gliderport of La Jolla, CA was again warned that glider pilots are not to use Amateur Radio communications without a license. Further violations will result in criminal prosecution. **Edwin McDavid N6AUE** of Sylmar, CA was also cited for communicating with unlicensed glider pilots.

James A. Ruppe N4XCV of Rutherfordton, NC was asked to respond to a complaint alleging that he used the call sign KE4HTM and engaged in jamming and malicious interference on 75-meters.

Chris D. Risher ex-KD6INK of Oakland, CA and **Stuart L. Linder ex-N8WLY** of Hamilton, OH had their license canceled for failure to appear for FCC-ordered re-examinations. The FCC said it has evidence that they have continued operating. The FCC will pursue criminal prosecution if this operation continues.

James R. Vining N5RLX of Conroe, TX has had his Extra Class license upgrade held up pending his response to the charge that he had caused deliberate interference to licensed amateurs including harassment, broadcasting music, profanity and obscenity and deliberately keying his transmitter over ongoing communications on the 75-meter band. "Information also indicates that you have operated N5RLX intoxicated and while doing so have interrupted and interfered with ongoing communications."

Magarita Rodriguez-Gonzalez, WP4NOD, Victor Gonzalez NP3UL, Efrain Alvira NP3SI (all of Puerto Rico) and **Fernando F. Chaviano AB2CQ** of Mt. Vernon, NY have had their licenses canceled for failing to appear for re-examination.

Sam W, Jacobs K3SAM of Latrobe, PA has had his KB3FGX club callsign set aside pending a response concerning a previous warning alleging his interference and "broadcasting" on Amateur frequencies.

Sherill C. Fore W4LMO of Rex, GA was advised that his uncoordinated repeater on 147.05 MHz was causing interference to KD4AOZ, a coordinated repeater. He was asked to state what steps he was taking to resolve the interference.

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The 11th International Amateur Radio Union (IARU) Region III Conference will be held in Darwin, Australia from August 28 to September 1, hosted by the Wireless Institute of Australia (WIA). It appears that the WIA position will be to recommend that all Region III societies support 5 wpm code proficiency to their Governments and to abolish the code exam requirement totally at WRC-2003. Here are some (heavily edited for space) excerpts from a WIA paper to be delivered at the Conference.

Morse code, ITU-RR S25.5 and the Amateur Service

ITU RR S25.5: *"Any person seeking a license shall prove that he is able to send correctly by hand and to receive correctly by ear texts in Morse code signals. The administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above 30 MHz."*

This paper examines the origins of Morse code proficiency tests for radio amateurs, the changes it has undergone, and the growing movement towards ending it as a mandatory license requirement.

When amateur wireless experimenters began generating Hertzian waves in the late 1800's the only means of transmission was Morse code telegraphy. Wireless in all of its initial applications used Morse code as the signaling method. The Morse code also provided a common language that enabled all individuals and radio services to intercommunicate, no matter what their nationality. The era of Morse code as the only means of signaling ended with the development of the microphone and the modulation of radio signals. Morse code remained an amateur license requirement.

A major change to Amateur Radio occurred when some countries introduced a no-code license for operation in the VHF and higher bands. The Morse code requirement has been modified a number of times by the ITU. In 1947 it agreed that it should only be required for amateur licensing on frequencies below 1 GHz, at WARC-59 it was dropped to 144 MHz, and WARC-79 further reduced it to 30 MHz. A number of countries introduced a no-code VHF license to attract those interested in pursuing Amateur Radio.

The WIA in early 2000 successfully submitted to the *Australian Communications Authority* that the Intermediate license [with a 5 wpm code proficiency] be given full HF band access. It did so in recognition of the global trend towards adopting an interim 5 wpm code license requirement, and the reduced emphasis on Morse code among the latest generation of radio amateurs in Australia.

The WIA Federal Convention in April this year adopted a new policy that it supported the IARU Administration Council recommendation that the ITU Radio Regulations be revised and as a result Morse code proficiency no longer be a mandatory requirement for Amateur Service licensing.

The introduction of the Global Maritime Distress and

Safety Systems (GMDSS) in February 1999 saw maritime Morse code replacement by a combination of automated VHF, MF and HF radio and satellite services.

In the first decade of the new millennium, the use of Morse code as a mandatory Amateur license requirement is being challenged throughout the world. Notwithstanding the move to new technologies, the A1A mode will continue to be used by radio amateurs for enjoyment.

The newer digital PC sound-card based modes with error correction, and digital speech processing technology, are enhancing transmission and reception, under poor signal conditions to the point that they are able to decode signals which are not audible by ear.

The debate over Morse code as a license requirement has raged throughout the world for a number of decades. However in the past two years radio societies and administrations are adopting 5 wpm as the standard for full HF band access.

The global trend toward 5 wpm has its foundation in a realization that the hobby of Amateur Radio, as it has been structured, is unable to compete with other leisure activities including the Internet.

The maturing demographics of Amateur Radio generally suggest a continuing decline unless new and younger people can be attracted to the hobby.

On each occasion a radio society adopts a policy of 5 wpm, it does so by stating it is in the long term interests of Amateur Radio, and is only an interim measure ahead of a review of mandatory Morse code Amateur license tests expected at the World Radiocommunication Conference 2003.

The WIA will continue to actively promote the use of Morse code through band planning, practice broadcasts and education services. However, with the march of new technologies, the relevance of Morse code as a precursor for HF operation has now diminished. The WIA sees Morse code as a simply one of a number of modes available to the Amateur Service.

The IARU Region III conference in Darwin, Australia, is an occasion for the region to re-consider this issue, and consider adopting a new policy in support of the abolition of mandatory Morse code testing.

Recommendation to this Conference.

1. The WIA recommends to this conference that IARU Region 3 adopt a policy that member societies seek, as an interim measure, the reduction of all Morse code testing speeds to 5 wpm.
2. Further, that the policy of the removal of Morse code testing as a mandatory ITU requirement be pursued by all member societies with their national communications administrations in time to have their views duly represented at the next available WRC or other appropriate forum duly empowered to discuss the matter.

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BE YOUR OWN MUTUAL FUND ANALYST

Up until now, investors had two ways to invest in the stock market. Either buy stocks or bonds on your own ...or participate in a mutual fund and let professionals do it for you. Now there is a third way: do-it-yourself fund investing.

By harnessing the power of the Internet, two very innovative investing products have appeared in the last few months: StockJungle and Folio. (Located at: <<http://www.StockJungle.com>> and <<http://www.FOLIOfn.com>>.)

StockJungle.com is an imaginative stock picking community that operates publicly over the Internet. They run the only mutual fund whose stock portfolio is determined entirely by amateur investors. It is also the home of what they call the "naked mutual fund." The entire investing process is open to the participation and scrutiny of the shareholders and sports "full disclosure" of its holdings. All other mutual funds disclose their makeup twice a year.

StockJungle.com's primary product is the Community Intelligence Fund (Symbol: SJCIX). Its stock portfolio is totally based on the recommendations of amateur analysts. Anyone can log on to StockJungle.com's Web site and submit their picks for inclusion. Successful amateur stock pickers are called "Hot Hands." And every day, StockJungle awards its highest rated stock picker with \$50. It is from these hot stock picks that holdings are selected for the fund.

While several thousand Web surfers have contributed selections to the site, only a few actually find their way into the fund. Similar to a traditional mutual fund, all final investment decisions are made by a professional fund managers. Every stock that is eventually selected for inclusion, however, was originally recommended by an armchair analyst.

While most investment professionals dismiss the principle as a gimmick where the inmates run the asylum, many admire the innovative concept. But even its critics have to admit that the system seems to be working. According to the Wall Street Journal, the Community Intelligence Fund ended this year's second quarter with a No. 3 ranking among hundreds of funds in Morningstar's large-cap-growth category. It posted a year-to-date total return of 33.81%, compared with a category average of 4.11%. Most of the stocks held in the Community Intelligence Fund fall into the technology sector. Community Intelligence's top five holdings are all profitable, well-established companies.

Despite its top-rated performance, StockJungle has only been able to gather \$4 million in assets into its Community Intelligence Fund -- only peanuts compared with an average of about \$1.9 billion for its peer group. But that could change, since with its recently acquired \$10 million in venture capital, StockJungle plans a marketing campaign and an increase in its distribution channel.

StockJungle.com also offers two other funds, which are totally managed by professionals. But they haven't done as well. So, StockJungle filed an amendment to these two funds' prospectuses, allowing its managers to draw investment ideas from StockJungle's developing amateur analyst community as well. It may indeed turn out that the animals at StockJungle know more than its zookeepers.

START AND MANAGE YOUR OWN MUTUAL FUND

It was considered revolutionary 25 years ago when Vanguard introduced the index mutual fund, an unmanaged collection of stocks that mirrors the Standard & Poors 500 industrial average.

Today, modern technology and easy access to the Internet are helping brokers pioneer even more imaginative ways to trade. An intriguing example is FOLIO[fn], a new innovative Vienna, Virginia online brokerage company that gives investors the benefits of individual stock ownership with the instant diversification of mutual funds.

Internet-based FOLIO financial service allows individual investors to buy and sell entire stock portfolios, preset or customized baskets of as many as 50 stocks assembled to represent a particular industry, index or risk tolerance with just a few mouse clicks. It offers quick and easy diversification that normally comes with holding many stocks.

But unlike a mutual fund that holds a portfolio of stocks chosen by a paid professional manager, the FOLIO portfolios can be customized (or changed completely) to allow for tax-loss selling, overall risk, or other factors. The financial service essentially permits investors to create and manage their own mutual funds online.

Founder and chairman Steven Wallman, 46, is a well-regarded corporate lawyer and a former Commissioner of the Securities and Exchange Commission. He is no stranger to innovation! He spent three years at the SEC spearheading the introduction of online trading. When Wallman left the SEC in 1997, he set out to create an investment medium that combines the diversification of funds with the advantages of individual stocks.

The result is FOLIO[fn]. The new company has more than \$75 million in start-up capital from investors led by PSINet Inc., an Internet service provider in Herndon, Va., and the Mayfield Fund in Menlo Park, Calif.

Traditional mutual fund managers make money by assessing an annual fee ...usually between one and two percent of your investment. FOLIO takes an entirely new approach by charging a flat annual \$295 subscription fee for an unlimited number of trades. Investors can maintain three "FOLIOS" of unlimited value with up to 50 stocks in each. You can even make changes to your holdings as often as twice a day. Wallman says that not having to pay costly portfolio managers saves costs and improves return. He wants to do to mutual fund managers what online trading did to stockbrokers; that is to make them (and their high management fees) unnecessary.

Unlike buying and selling stocks individually, through the FOLIO program investors are able to buy fractional shares just as they would with a mutual fund. Powerful online investment-style screens permits individual investors to become their own fund managers.

Mutual funds hand you the capital-gains tax bill at the end of the year. With FOLIO, you can do your own tax planning, like selling off your losers at year-end. The service tracks an investor's taxable basis in each stock separately and you get a statement at the end of the year.